

DRAFT

**STATE OPERATING PERMIT
STATIONARY SOURCE PERMIT TO OPERATE**

This permit supersedes your permit dated September 6, 1973.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia
Regulations for the Control and Abatement of Air Pollution,

Roanoke Electric Steel Corp. D/B/A Steel Dynamics Roanoke Bar Division
P.O. Box 13948
Roanoke, Virginia 24038-3948
Registration No.: 20131
County-Plant ID No.: 51-161-0004

is authorized to operate

the Electric Arc Furnace Number 4

located at

102 West Side Blvd, Roanoke City

in accordance with the Conditions of this permit.

Approved on DRAFT.

Steven A. Dietrich, P.E.
Regional Director, Department of Environmental Quality

Permit consists of 7 pages.
Permit Conditions 1 to 19.

INTRODUCTION

This permit approval is based on the permit application dated June 12, 2006. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-10 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the Department of Environmental Quality (DEQ) or the State Air Pollution Control Board (Board) for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

PROCESS REQUIREMENTS

1. **Equipment List** - Equipment covered by this permit consists of the following:

Reference No.	Equipment Description	Rated Capacity	Original Permit Date
EAF No. 4	Electric Arc Furnace Number 4	26 tph	September 6, 1973

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.

(9 VAC 5-80-850 F 3)

2. **Emission Controls** – Particulate emissions from the Electric Arc Furnace Number 4 (EAF #4) shall be controlled by fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when electric arc furnace is operating.
(9 VAC 5-80-850 C)

3. **Monitoring Devices** – The fabric filter shall be equipped with a device to continuously measure the differential pressure across the fabric filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filter is operating.
(9 VAC 5-50-40 F, 9 VAC 5-80-850 F and 9 VAC 5-80-890)
4. **Monitoring Device Observation** – To ensure good performance, the device used to continuously measure the differential pressure shall be observed by the permittee with a frequency of not less than once per day when the unit is operating. The permittee shall keep a log of the observations from the monitoring device.
(9 VAC 5-50-50 and 9 VAC 5-80-850)

OPERATING LIMITS

5. **Production** - The production of molten steel shall not exceed 50,000 tons per year, calculated monthly as the sum of each consecutive 12-month period.
(9 VAC 5-80-850)

EMISSION LIMITS

6. **Process Emission Limits** - Emissions from the operation of the EAF #4 shall not exceed the limits specified below:

PM-10	27.3	lbs/hr	26.3	tons/yr
Sulfur Dioxide	10.0	lbs/hr	9.5	tons/yr

These emissions are derived from the estimated overall emission contribution from the Operating Limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition numbers 2, 5 and 7.
(9 VAC 5-80-850)

7. **Visible Emission Limit** - Visible emissions from EAF #4 shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.
(9 VAC 5-50-50 and 9 VAC 5-80-850)

CONTINUING COMPLIANCE

8. **Stack Tests** - Upon request by the DEQ, the permittee shall conduct performance tests to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager, West Central Regional Office.
(9 VAC 5-50-50 G and 9 VAC 5-80-880)
9. **Visible Emissions Evaluations** - Upon request by the DEQ, the permittee shall conduct visible emission evaluations to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager, West Central Regional Office.
(9 VAC 5-50-50 G and 9 VAC 5-80-880)

RECORDKEEPING AND REPORTING

10. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager, West Central Regional Office. These records shall include, but are not limited to:
 - a. Annual production of molten steel from the EAF #4, calculated monthly as the sum of each consecutive 12-month period.
 - b. Operation and control device monitoring records for the fabric filter as required in Condition 4.
 - c. Scheduled and unscheduled maintenance and operator training.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-50-50 and 9 VAC 5-80-900)

11. **Reports for Facility or Control Equipment Malfunction** – Within 30 days of a failure or malfunction that is expected to exist for 30 days or more, and semi-monthly thereafter until the failure or malfunction is corrected, the permittee shall furnish written reports to the Air Compliance Manager, West Central Regional Office containing the following:
 - a. Identification of the specific facility that is affected as well as its location and registration number;
 - b. The expected length of time that the air pollution control equipment will be out of service;

- c. The nature and quantity of air pollutant emissions likely to occur during the breakdown period;
- d. Measures taken to reduce the emissions to the lowest amount practicable during the breakdown period;
- e. A statement as to why the owner was unable to obtain parts or perform repairs that which would allow compliance with the provisions of these regulations within 30 days of the malfunction or failure;
- f. An estimate, with reasons given, of the duration of the shortage of repairs or repair parts which would allow compliance with the provisions of these regulations; and
- g. Any other pertinent information as may be requested by the board.

(9 VAC 5-20-180D and 9 VAC 5-80-850)

NOTIFICATIONS

12. Notification for Control Equipment Maintenance - The permittee shall furnish notification to the Air Compliance Manager, West Central Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

- a. Identification of the air pollution control equipment to be taken out of service, as well as its location, and registration number;
- b. The expected length of time that the air pollution control equipment will be out of service;
- c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period; and
- d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-20-180 B and 9 VAC 5-80-850)

13. Notification for Facility or Control Equipment Malfunction - The permittee shall furnish notification to the Air Compliance Manager, West Central Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business

hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Air Compliance Manager, West Central Regional Office.
(9 VAC 5-20-180 C and 9 VAC 5-80-850)

GENERAL CONDITIONS

14. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;
- b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;
- c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
- d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
(9 VAC 5-170-130)

15. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I and 9 VAC 5-80-850)

16. **Maintenance/Operating Procedures** – At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.
(9 VAC 5-50-20 E and 9 VAC 5-80-850)

17. **Permit Suspension/Revocation** - This permit may be revoked if the permittee:

- a. Knowingly makes material misstatements in the permit application or any amendments to it;

- b. Fails to comply with the terms or conditions of this permit;
- c. Fails to comply with any emission standards applicable to a permitted emissions unit;
- d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;
- e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time that an application for this permit is submitted;
- f. Fails to comply with the applicable provisions of Articles 6, 8 and 9 of 9 VAC 5 Chapter 80.

(9 VAC 5-80-1010)

18. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Regional Director, West Central Regional Office of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-940)
19. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-860 D)

SOURCE TESTING REPORT FORMAT

Report Cover

1. Plant name and location.
2. Units tested at source (indicate Ref. No. used by source in permit or registration).
3. Test Dates.
4. Tester; name, address and report date.

Certification

1. Signed by team leader/certified observer (include certification date).
2. Signed by responsible company official.
3. *Signed by reviewer.

Copy of approved test protocol

Summary

1. Reason for testing
2. Test dates
3. Identification of unit tested & the maximum rated capacity.
4. *For each emission unit, a table showing:
 - a. Operating rate
 - b. Test Methods
 - c. Pollutants tested
 - d. Test results for each run and the run average.
 - e. Pollutant standard or limit.
5. Summarized process and control equipment data for each run and the average, as required by the test protocol.
6. A statement that test was conducted in accordance with the test protocol or identification & discussion of deviations, including the likely impact on results.
7. Any other important information.

Source Operation

1. Description of process and control devices.
2. Process and control equipment flow diagram.
3. Sampling port location and dimensioned cross section. Attached protocol includes: sketch of stack (elevation view) showing sampling port locations, upstream and downstream flow disturbances and their distances from ports; and a sketch of stack (plan view) showing sampling ports, ducts entering the stack and stack diameter or dimensions.

Test Results

1. Detailed test results for each run.
2. *Sample calculations
3. *Description of collected samples, to include audits when applicable.

Appendix

1. *Raw production data
2. *Raw field data
3. *Laboratory reports
4. *Chain of custody records for lab samples.
5. *Calibration procedures and results.
6. Project participants and titles
7. Observers' names (industry and agency)
8. Related correspondence
9. Standard procedures

*Not applicable to visible emission evaluations.